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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,737	02/03/2004	Guan-Shian Chen	AMAT/7164.C1/CMP/ECP/RKK	1009

44257 7590 07/14/2006

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EXAMINER	
LAMB, BRENDA A	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/770,737	CHEN ET AL.	
	Examiner	Art Unit	
	Brenda A. Lamb	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,6,9 and 21-31* is/are pending in the application.

4a) Of the above claim(s) *29-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,9 and 21-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Newly submitted claims 29-31 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the apparatus as originally claimed can be used to perform another and materially different process such as one wherein the processes in the system are halted while a faulty processing module is removed and replaced with a new processing module. Note also the process as claimed can be practiced by another and materially different apparatus such as one wherein the substrate is manually transferred between the interface section and processing module. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 29-31 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Dordi et al 6,267,853.

Dordi et al '853 teaches an electroless processing system is comprised of processing modules thereby reading on a modular system or system of or relating to modules. Dordi et al '853 teaches the electroless processing system is comprised of a substrate transfer robot 242 positioned in an interface section; a processing enclosure; a first fluid processing cell positioned in the enclosure, the first fluid processing cell being configured to dispense an electroless activation solution onto the substrate, and a second fluid processing cell positioned in the enclosure, the second fluid processing cell being configured to dispense at least one of an electroless deposition solution wherein the enclosure robot is configured to transfer substrates between the activation cell and deposition cell. Thus Dordi et al '853 teaches every element of the claimed apparatus set forth in claim 1. With respect to claims 2-3, Dordi et al '853 teaches his cells as

depicted in his Figures 14 and 17 comprise face up processing cells. Further, Dordi et al '853 teaches the cells each comprise a rotatable substrate support member, a fluid dispensing arm and a substrate centering member. With respect to claims 5-6, Dordi et al '853 teaches the apparatus is comprised of a plurality of cleaning cells thereby reading on an additional substrate cleaning cell having structure within the scope of claim 6 and in communication with the interface section (see column 10 line 20 to column 11 lines 63).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dordi et al 6,267,853 in view of Davis 5,779,799.

Dordi et al '853 is applied for the reasons noted above. Dordi et al '853 fails to teach the electroless processing module is removable from the interface section or the processing enclosure is detachably positioned in communication with the processing platform. However, Davis discloses arranging a wafer treating system having a plurality of treatment apparatuses wherein each treatment apparatus is a self-controlled and contained module such that one can remove one section/module from the remaining sections/modules. Therefore, it would have been obvious to modify the Dordi et al '853 apparatus by arranging its processing module is separable or removable from the interface section or such that the processing enclosure is detachably positioned in communication with the processing platform for the advantages taught by Davis of making treatment sections of wafer treating apparatus highly modular – minimize downtime for maintenance. Thus claim 9 is obvious over the above cited references.

Claims 21 and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Hongo et al 6,921,466.

Hongo et al teaches the design of an electroless processing system, comprising: a factory interface having a substrate transfer robot or first robot positioned therein, the factory interface being configured to communicate with at least one substrate containing cassette; and at least two substrate processing modules are interchangeable within the system and thereby is in detachable communication with and removable from the factory interface, each of the at least two substrate processing modules including a pretreatment/post treatment cell and an electroless processing cell as shown in Figure 36 or Figure 45 (see paragraphs 0038-0039,0312 and 0336). Hongo et al teaches every element of the claimed apparatus as set forth in claim 21. With respect to claim 24, Hongo et al teaches configured to conduct at least one of rinsing or cleaning via a cleaning unit which includes a spin/rinsing/drying unit. With respect to claims 25-28, Hongo et al teaches each of the units in the semiconductor substrate processing system are interchangeable within the system. With respect to claim 23, Hongo et al teaches the at least two substrate processing modules further comprises a second substrate transfer robot or third robot positioned therein, the second substrate transfer robot or third robot being configured to transfer substrates between the substrate transfer robot or first robot in the factory interface, the pretreatment/post treatment cell, and the electroless processing cell (see Figure 43, note Hongo et al teaches that plating may be formed by electroless plating in the embodiment depicted in Figure 43).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hongo et al 6,921,466 in view of Verhaverbeke et al 2003/0045098.

Hongo et al is applied for reasons noted but fails to teach a substrate transfer robot comprised a linear track-type robot configured to access each substrate processing modules. However, it would have been obvious to modify Hongo et al apparatus by substituting its substrate transfer robot with a linear track-type robot configured to access each of substrate processing modules such as taught by Verhaverbeke et al in Figure 18A-18B for obvious advantage of simplification in design.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the recitation in claim 25 that the at least two processing modules is detachable from the factory interface further limits independent claim which recites that the substrate processing modules are detachable with the factory interface.

Applicant's arguments filed 4/20/2006 have been fully considered but they are not persuasive.

Applicant's argument that Dordi et al processing system is not a modular system is found to be non-persuasive. Dordi et al teaches his system is comprised of modules thereby reading on a modular system (column 12 lines 21-29).

Applicant's argument that the combination of Dordi et al and Davis each fail to teach a modular electroless processing system is found to be non-persuasive. Davis is applied to teach a wafer treating system having a plurality of treatment apparatuses wherein each treatment apparatus is a self-controlled and contained module such that one can remove one section/module from the remaining sections/modules and not applied to teach a modular electroless processing system with an electroless processing module positioned in communication with an interface section. Therefore, it would have been obvious to modify the Dordi et al '853 apparatus by arranging its processing module is separable or removable from the interface section or such that the processing enclosure is detachably positioned in communication with the processing platform for the advantages taught by Davis of making treatment sections of wafer treating apparatus highly modular – minimize downtime for maintenance.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Brenda A. Lamb at telephone number (571) 272-1231. The examiner can normally be reached on Monday and Wednesday thru Friday with alternate Tuesdays off.

Brenda Adele Lamb

BRENDA A. LAMB
PRIMARY EXAMINER